

Please type a plus sign (+) inside this box ?



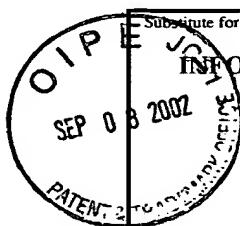
PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

SP 18



Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**
(use as many sheets as necessary)

Complete If Known

Sheet

1

of

1

Application Number

09/930,440

Filing Date

August 16, 2001

First Named Inventor

Betenbaugh et al.

Group Art Unit

1652

Examiner Name

Manjunath N. Rao

Attorney Docket Number

PF509P2

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³ Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶

OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
mmr	GG	European Search Report dated July 11, 2002.	
	GH	European Search Report dated June 10, 2002	
mmr	GI	Munster et al., "Mammalian cytidine 5'-monophosphate N-acetylneurameric acid synthetase: A nuclear protein with evolutionarily conserved structural motifs", Proc. Natl. Acad. Sci. 95:9140-9145 (1998)	
	GJ	XP-002199518; Accession No. 088719; Database SWALL 'Online!', Nov 1, 1998	Author
	GK	XP-002199519; Accession No. AJ006215; Database EMBL 'Online!', August 7, 1998	
mmr	GL	Kean, E.L., "Mini Review Sialic Acid Activation", Glycobiology, 1(5):441-447 (1991)	
mmr	GM	Kolisis, F.N., "Studies on Acylneuraminate Cytidylytransferase from Human Placenta" Archives Internationales de Physiologie et de Biochimie 92:179-184 (1984)	
#	GN	EMBL Accession No. AJ006215; "CMP-N-acetylneurameric acid synthetase" August 7, 1998	
mmr	GO	Gu et al., "Improvement of Interferon-γ Sialylation in Chinese Hamster Ovary Cell Culture by Feeding of N-Acetylmannosamine", Biotechnology and Bioengineering 58(6):642-648 (1998)	
mmr	GP	Ogonah et al., "Isolation and Characterization of an Insect Cell Line Able to Perform Complex N-Linked Glycosylation on Recombinant Proteins" Biotechnology 14:197-202 (1996)	

Examiner

mmr

Date Considered

10/23/02

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIP Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.

Please type a plus sign (+) inside this box ? +

PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

#3

Substitute for form 1449A/PTO

Complete If Known

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**
(use as many sheets as necessary)

Sheet

1

of

11

Application Number	09/930,440
Filing Date	August 16, 2001
First Named Inventor	Betenbaugh et al.
Group Art Unit	To be assigned
Examiner Name	To be assigned
Attorney Docket Number	PF509P2

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
MML	AA	6,030,824		Hillman et al.	02-29-2000	
	AB	5,962,302		Hillman et al.	10-05-1999	
MML	AC	5,593,887		Wong et al.	01-14-1997	

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³ Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
MML	AD	WO 00/05378		STICHTING DIENST LANDBOUWKENDIG ONDERZOEK	02-03-2000	Sheets 26 and 30 of Figures	

OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
MML	AE	Munster, A-K., et al., "Mammalian cytidine 5'-monophosphate N-acetylneuraminate synthetase: A nuclear protein with evolutionarily conserved structural motifs", Proc. Natl. Acad. Sci. USA, vol.95, pp.9140-9145 (August 1998).	
MML	AF	Redenbach, M., et al., "A set of ordered cosmids and a detailed genetic and physical map for the 8 Mb Streptomyces coelicolor A3(2) chromosome", Mol. Microbiol., vol.21, no.1, pp.77-96 (July 1996).	
	AG	Genbank Accession No. AI916625 (12/16/1999)	
	AH	Genbank Accession No. AI635718 (12/16/1999)	
	AI	Genbank Accession No. AI550577 (03/15/2000)	
	AJ	Genbank Accession No. AI521193 (04/13/1999)	
	AK	Genbank Accession No. AI383564 (03/18/1999)	
	AL	Genbank Accession No. AI245446 (11/04/1998)	
	AM	Genbank Accession No. AI079177 (09/24/1998)	
	AN	Genbank Accession No. AA226858 (02/24/1997)	
	AO	Genbank Accession No. AA162738 (12/17/1996)	
	AP	Genbank Accession No. W79930 (10/17/1996)	

Examiner	MML	Date Considered	10/23/02
----------	-----	-----------------	----------

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.

Please type a plus sign (+) inside this box ?

+

PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO				Complete If Known	
INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION (use as many sheets as necessary)					
Sheet	2	of	11	Attorney Docket Number	PF509P2
U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY
FOREIGN PATENT DOCUMENTS					
Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³ Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY
OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			
	AQ	Genbank Accession No. W78156 (10/17/1996)			
	AR	Genbank Accession No. N43918 (02/07/1996)			
	AS	Genbank Accession No. H65991 (10/18/1995)			
	AT	Genbank Accession No. H03606 (06/20/1995)			
	AU	Genbank Accession No. R79402 (06/09/1995)			
	AV	Genbank Accession No. R24888 (04/20/1995)			
	AW	Genbank Accession No. T87365 (03/17/1995)			
	AX	Genbank Accession No. T87364 (03/17/1995)			
	AY	Genbank Accession No. T78879 (03/15/1995)			
	AZ	Genbank Accession No. T78878 (03/15/1995)			
	BA	Genbank Accession No. AI823915 (12/8/1999)			
	BB	Genbank Accession No. AI813508 (12/21/1999)			
	BC	Genbank Accession No. AI688701 (12/17/1999)			
	BD	Genbank Accession No. AI688690 (12/17/1999)			
	BE	Genbank Accession No. AI685603 (05/27/1999)			
	BF	Genbank Accession No. AI677789 (12/17/1999)			
Examiner		Date Considered			
<i>mmml2</i>		10/23/02			

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.

Please type a plus sign (+) inside this box ? +

PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

Complete If Known

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**
(use as many sheets as necessary)

Sheet

3

of

11

Application Number	09/930,440
Filing Date	August 16, 2001
First Named Inventor	Betenbaugh et al.
Group Art Unit	To be assigned
Examiner Name	To be assigned

Attorney Docket Number

PF509P2

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³	Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶

OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	BG	Genbank Accession No. AI673324 (12/14/1999)	
	BH	Genbank Accession No. F36772 (05/13/1999)	
	BI	Genbank Accession No. F32570 (05/13/1999)	
	BJ	Genbank Accession No. F28422 (05/13/1999)	
	BK	Genbank Accession No. AI565693 (05/12/1999)	
	BL	Genbank Accession No. AI423931 (03/30/1999)	
	BM	Genbank Accession No. AI368438 (02/15/1999)	
	BN	Genbank Accession No. AI342400 (02/13/1999)	
	BO	Genbank Accession No. AI265981 (01/29/1999)	
	BP	Genbank Accession No. AI143732 (11/10/1998)	
	BQ	Genbank Accession No. AI083663 (11/10/1998)	
	BR	Genbank Accession No. AI150772 (10/2X/1998)	
	BS	Genbank Accession No. AI056552 (09/29/1998)	
	BT	Genbank Accession No. AI037990 (09/24/1998)	
	BU	Genbank Accession No. AI032312 (08/27/1998)	
	BV	Genbank Accession No. AI016445 (08/27/1998)	
	BW	Genbank Accession No. AI078660 (04/13/1999)	

Examiner

[Signature]

Date Considered

10/23/02

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.

Please type a plus sign (+) inside this box ?

[] +

PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

Complete If Known

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**
(use as many sheets as necessary)

Sheet

4

of

11

Application Number	09/930,440
Filing Date	August 16, 2001
First Named Inventor	Betenbaugh et al.
Group Art Unit	To be assigned
Examiner Name	To be assigned
Attorney Docket Number	PF509P2

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³	Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶

OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	BX	Genbank Accession No. AA947519 (07/23/1998)	
	BY	Genbank Accession No. AA918001 (06/10/1998)	
	BZ	Genbank Accession No. AA862954 (04/29/1998)	
	CA	Genbank Accession No. AA831223 (03/25/1998)	
	CB	Genbank Accession No. AA621146 (03/02/1998)	
	CC	Genbank Accession No. AA741294 (02/07/1998)	
	CD	Genbank Accession No. AA064694 (12/23/1997)	
	CE	Genbank Accession No. AA064652 (12/23/1997)	
	CF	Genbank Accession No. AA635261 (11/25/1997)	
	CG	Genbank Accession No. AA627771 (10/31/1997)	
	CH	Genbank Accession No. AA639295 (10/23/1997)	
	CI	Genbank Accession No. AA602087 (10/08/1997)	
	CJ	Genbank Accession No. AA602067 (10/08/1997)	
	CK	Genbank Accession No. AA564277 (09/04/1997)	
	CL	Genbank Accession No. AA568252 (08/22/1997)	
	CM	Genbank Accession No. AA532823 (08/21/1997)	
	CN	Genbank Accession No. AA533883 (08/21/1997)	

Examiner	<i>mmml</i>	Date Considered	10/23/02
----------	-------------	-----------------	----------

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.

Please type a plus sign (+) inside this box ?

+

PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

Complete If Known

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**
(use as many sheets as necessary)

Sheet

5

of

11

Application Number	09/930,440
Filing Date	August 16, 2001
First Named Inventor	Betenbaugh et al.
Group Art Unit	To be assigned
Examiner Name	To be assigned

Attorney Docket Number

PF509P2

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³	Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶

OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
CO	Genbank Accession No. AA502303 (08/19/1997)		
CP	Genbank Accession No. AA195380 (04/29/1998)		
CQ	Genbank Accession No. AA057158 (05/11/1997)		
CR	Genbank Accession No. AA056990 (05/11/1997)		
CS	Genbank Accession No. AA056931 (05/11/1997)		
CT	Genbank Accession No. AA057865 (05/11/1997)		
CU	Genbank Accession No. F20800 (05/17/1999)		
CV	Genbank Accession No. AA373896 (04/21/1997)		
CW	Genbank Accession No. AA325066 (04/20/1997)		
CX	Genbank Accession No. AA308334 (04/18/1997)		
CY	Genbank Accession No. AA270975 (03/26/1997)		
CZ	Genbank Accession No. AA121653 (01/30/1997)		
DA	Genbank Accession No. AA133055 (11/27/1996)		
DB	Genbank Accession No. AA132974 (11/27/1996)		
DC	Genbank Accession No. W46683 (10/11/1996)		
DD	Genbank Accession No. W46636 (10/11/1996)		

Examiner

mwm

Date Considered

10/23/02

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.

Please type a plus sign (+) inside this box ? +

PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

Complete If Known

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**
(use as many sheets as necessary)

Sheet

6

of

11

Application Number	09/930,440
Filing Date	August 16, 2001
First Named Inventor	Betenbaugh et al.
Group Art Unit	To be assigned
Examiner Name	To be assigned
Attorney Docket Number	PF509P2

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³ Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶

OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	DE	Genbank Accession No. W05290 (04/23/1996)	
	DF	Genbank Accession No. N75480 (03/29/1996)	
	DG	Genbank Accession No. N46383 (02/14/1996)	
	DH	Genbank Accession No. N37069 (01/16/1996)	
	DI	Genbank Accession No. N30051 (01/05/1996)	
	DJ	Genbank Accession No. N28455 (01/04/1996)	
	DK	Genbank Accession No. N27680 (12/30/1995)	
	DL	Genbank Accession No. N20843 (12/19/1995)	
	DM	Genbank Accession No. H25271 (07/10/1995)	
	DN	Genbank Accession No. T82852 (03/16/1995)	
	DO	Genbank Accession No. R72258 (06/02/1995)	
	DP	Genbank Accession No. AA086111 (10/23/1996)	
	DQ	Genbank Accession No. AA307074 (04/18/1997)	
	DR	Genbank Accession No. AA839024 (02/27/1998)	
	DS	Genbank Accession No. AA230788 (02/26/1997)	
	DT	Genbank Accession No. C84288 (03/26/1999)	
	DU	Genbank Accession No. AA604000 (10/28/1997)	

Examiner

mmml

Date Considered

10/23/02

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.

Please type a plus sign (+) inside this box ? +

PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

Complete If Known

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**
(use as many sheets as necessary)

Sheet

7

of

11

Application Number	09/930,440
Filing Date	August 16, 2001
First Named Inventor	Betenbaugh et al.
Group Art Unit	To be assigned
Examiner Name	To be assigned

Attorney Docket Number

PF509P2

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶

OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	DV	Genbank Accession No. W85985 (02/02/1997)	
	DW	Genbank Accession No. AA032715 (08/22/1996)	
	DX	Genbank Accession No. AI701120 (12/18/1999)	
	DY	Genbank Accession No. AA981884 (05/27/1998)	
	DZ	Genbank Accession No. W59582 (06/06/1996)	
	EA	Genbank Accession No. AA670706 (11/25/1997)	
	EB	Genbank Accession No. AI624434 (12/14/1999)	
	EC	Genbank Accession No. T77310 (03/06/1995)	
	ED	Genbank Accession No. AA081645 (10/21/1996)	
	EE	Genbank Accession No. W65159 (06/10/1996)	
	EF	Genbank Accession No. T99986 (03/31/1995)	
	EG	Genbank Accession No. AA636878 (12/14/1995)	
	EH	Genbank Accession No. H68573 (10/27/1995)	
	EI	Genbank Accession No. AA162903 (02/11/1997)	
	EJ	Genbank Accession No. AI879065(08/23/1999)	
	EK	Genbank Accession No. AA930983 (04/23/1998)	
	EL	Genbank Accession No. R74907 (07/25/1996)	
	EM	Genbank Accession No. AA792227 (02/09/1998)	

Examiner

Mmmal

Date Considered

10/23/02

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.

Please type a plus sign (+) inside this box ?

+

PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

Complete If Known

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**
(use as many sheets as necessary)

Sheet

8

of

11

Application Number	09/930,440
Filing Date	August 16, 2001
First Named Inventor	Betenbaugh et al.
Group Art Unit	To be assigned
Examiner Name	To be assigned

Attorney Docket Number

PF509P2

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³ Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶

OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
	EN	Genbank Accession No. AI888696 (03/08/2000)	
	EO	Genbank Accession No. AA417239 (10/16/1997)	
	EP	Genbank Accession No. AA384961 (04/21/1997)	
	EQ	Genbank Accession No. C84527 (03/26/1999)	
	ER	Genbank Accession No. AI739429 (12/21/1999)	
	ES	Genbank Accession No. AA415331 (10/16/1997)	
	ET	Genbank Accession No. R86540 (08/17/1995)	
	EU	Genbank Accession No. AI664161 (05/10/1999)	
	EV	Genbank Accession No. AA699593 (12/19/1997)	
	EW	Genbank Accession No. AA007637 (05/09/1997)	
	EX	Genbank Accession No. AI470741 (03/09/1999)	
	EY	Genbank Accession No. AA203188 (01/24/1997)	
	EZ	Genbank Accession No. AI340362 (02/13/1999)	
	FA	Genbank Accession No. AA711207 (12/24/1997)	
	FB	Genbank Accession No. AA000619 (07/18/1996)	
	FC	Genbank Accession No. A778902 (02/05/1998)	
	FD	Genbank Accession No. AI117197 (09/02/1998)	

Examiner

mmml

Date Considered

10/13/02

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIP Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.

Please type a plus sign (+) inside this box ?

PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO				Complete If Known			
INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION (use as many sheets as necessary)							
				Application Number <input type="text"/> 09/930,440 Filing Date <input type="text"/> August 16, 2001 First Named Inventor <input type="text"/> Betenbaugh et al. Group Art Unit <input type="text"/> To be assigned Examiner Name <input type="text"/> To be assigned			
Sheet	9	of	11	Attorney Docket Number	PF509P2		
U.S. PATENT DOCUMENTS							
Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY		
FOREIGN PATENT DOCUMENTS							
Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³ Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS							
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.					T ⁶
	FE	Genbank Accession No. AA475777 (06/18/1997)					
	FF	Genbank Accession No. W85750 (02/02/1997)					
	FG	Genbank Accession No. AA269909 (03/26/1997)					
	FH	Genbank Accession No. AA691227 (12/16/1997)					
	FI	Genbank Accession No. AI829102 (12/21/1999)					
	FJ	Genbank Accession No. AA016640 (08/02/1996)					
	FK	Genbank Accession No. AA002459 (07/19/1996)					
	FL	Genbank Accession No. AA27768 (10/27/1998)					
	FM	Genbank Accession No. AA119079 (02/17/1997)					
<i>mmml</i>	FN	SAKAKIBARA ET AL., Constructions and expression of human aldolase A and B expression plasmids in Escherichia coli host, Biochimica et Biophysica Acta, 1007:334-342 (1989).					
	FO	LUBINEAU ET AL., "Combined Chemical and Enzymatic Synthesis of the Sialylated Non Reducing Terminal Sequence of GM _{1b} Glycolylated Ganglioside, a Potential Human Tumor Marker," Bioorganic & Medicinal Chemistry 2(7):669-674 (1994).					
<i>mmml</i>	FP	International Preliminary Examination Report mailed on August 22, 2001, in corresponding International Application No. PCT/US00/05313.					
Examiner	<i>mmml</i>			Date Considered	10/23/01		

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered.
Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPR Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.

Please type a plus sign (+) inside this box ? +

PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

Complete If Known

**INFORMATION DISCLOSURE STATEMENT
IN AN APPLICATION**
(use as many sheets as necessary)

Sheet

10

of

11

Application Number	09/930,440
Filing Date	August 16, 2001
First Named Inventor	Betenbaugh et al.
Group Art Unit	To be assigned
Examiner Name	To be assigned
Attorney Docket Number	PF509P2

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³	Kind Code ⁴ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
						T ⁶

OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ⁶
psmm2	FQ	International Search Report mailed on June 20, 2000, in corresponding International Application No. PCT/US00/05313.	
	FR	FUSSENEGGER et al. "Genetic optimization of recombinant glycoprotein production by mammalian cells," <i>TIBS</i> 17:35-42 (1999)	
	FS	SHAMES et al. "CMP-N-acetyleneurameric acid synthase of <i>E. coli</i> : high level expression purification and use in the enzymatic synthesis of CMP-N-acetyleneurameric acid and CMP-neurameric acid derivatives," <i>Glycobiology</i> 1:187-191 (1991)	
	FT	MURHAMMER et al. "Review and Patents and Literature: The use of insect cell cultures for recombinant protein synthesis: engineering aspects," <i>Appl. Biochem. Biotech.</i> 31:283-310 (1991)	
	FU	YANG et al. "Human transferrin: cDNA characterization and the chromosomal localization," <i>PNAS USA</i> 81:2752-2756 (1984)	
	FV	SAKAKIBARA et al. "Nucleotide sequence of a cDNA clone for human aldolase; a mRNA in the liver," <i>Biochem. Biophys. Res. Commun.</i> 131(1):413-420 (1985)	
	FW	GONZALEZ et al. "Identification, expression, and characterization of a cDNA encoding human endoplasmic reticulum mannosidase I, the enzyme that catalyzes the first mannose trimming step in mammalian Asn-linked oligosaccharide biosynthesis," <i>J. Biol. Chem.</i> 274(30):21375-21386 (1999)	
	FX	RODRIGUEZ-APARICIO, et al. "Purification and Characterization of the Nuclear Cytidine 5' Monophosphate N-Acetyleneurameric Acid Synthetase from Rat Liver" <i>J. Biol. Chem.</i> 267(13):9257-9263 (1992)	
NMM2	FY	International Search Report mailed on April 30, 2001, in related International Application No. PCT/US00/33136.	

Examiner		Date Considered	10/28/02
----------	--	-----------------	----------

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.

Please type a plus sign (+) inside this box ?

+

PTO/SB/08A (10-96)

Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. Department of Commerce

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO				Complete If Known	
INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION (use as many sheets as necessary)					
Sheet	11	of	11	Application Number	09/930,440
				Filing Date	August 16, 2001
				First Named Inventor	Betenbaugh et al.
				Group Art Unit	To be assigned
				Examiner Name	To be assigned
				Attorney Docket Number	PF509P2
U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No. ¹	U.S. Patent Document Number	Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY
FOREIGN PATENT DOCUMENTS					
Examiner Initials	Cite No. ¹	Foreign Patent Document Office ³ Number ⁴	Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YY
<i>mml</i>	FY	WO 98/06835		The Texas A&M University System	02-19-1998
	FZ	WO 00/52135		Human Genome Sciences, Inc.	09-08-2000
	GA	WO 01/42492		Human Genome Sciences, Inc.	06-14-2001
<i>mml</i>	GB	WO 00/52136		Human Genome Sciences, Inc.	09-08-2000
OTHER REFERENCES - NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			
	GC	EMBL/GenBank/DDBJ database Accession No. AJ000855 (June 1, 1998).			
<i>mml</i>	GD	GANGULI et al., <i>Journal of Bacteriology</i> , 176(15):4583-4589 (1994).			
	GE	GILBERT et al., <i>The Journal of Biological Chemistry</i> , 275(6):3896-3906 (2000).			
<i>mml</i>	GF	WEIKERT et al., <i>Nature Biotechnology</i> , 17:1116-1121 (1999).			
Examiner		<i>mml</i>		Date Considered	
				<i>10/23/02</i>	

Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.